QPF Process Implementation Time Line: Deadlines, Tasks, and Action Office/Region

Completion of the specified tasks will ensure implementation by 30 September 2000 of the recommendations adopted at the August 1999 Director's Conference and the supporting recommendations outlined in the QPF Process Assessment Team Report.

Additional Tasks, agreed to by the QPF Process Implementation Working Group (IWG) are depicted in redline.

Completed Tasks

September 1999

September 1: Submit coordinated AWIPS Build 5 QPF Requirements White Paper (RWP00059) to APO specifying functionality necessary to implement a uniform AWIPS QPF tool which satisfies existing HPC, RFC, and WFO requirements. Action: OM

September 15: Submit proposal to NCEP Director for HPC FTE reallocation to improve QPF support for hydrologic services. Action: NCEP/HPC

October 1999

October 1: Determine Level of Effort (LOE) in (development) months required to implement critical QPF functionality in AWIPS Builds 5. Action: OM and APO

October 1: Submit requirements to NCEP Central Operations (NCO) for NMAP software enhancements for HPC QPF product development. Action: NCEP/HPC

October 1: Coordinate with Western Region to standardize the format of the HPC-generated QPF point forecasts provided to CONUS RFCs west of the Continental Divide. Action: NCEP/HPC

October 8: Approval by FRG of course agendas for RFC HAS/HPC QPI Workshops and SOO Heavy Precipitation and Flash Flood Symposia at COMET. Action: OM and OH

October 15: Specify new HPC product suite and delivery schedule (satisfying QPF Assessment Team Report recommendations and QPI Plan requirements). Action: NCEP/HPC and OM

October 20: Submit request to Data Review Group (DRG) to approve dissemination of new graphical Phase 1 (of 2) (see attached tables) HPC QPF products via AWIPS. Action: NCEP/HPC

October 20: Issue Public Notification Statement (PNS) for HPC Phase 1 product suite enhancements (enhancements effective 1200 UTC cycle 6 December 1999). Action: OM

October 29: Approve reallocation of internal HPC FTEs. Action: NCEP

October 29: Complete preparations for data access, archival, and analysis to support verification of HPC and WFO QPFs generated during the WR follow-on assessment. Action: OM

October 29: Approve time line or respond with comments for the implementation of the recommendations adopted at the August 1999 Director's Conference and the supporting recommendations outlined in the QPF Process Assessment Team Report. Action: Corporate Board

October 29: Approve verification methodology and evaluation criteria or respond with comments for WR follow-on assessment. Action: Corporate Board

October 29: Implement procedure to provide 6-h point QPFs through Day 3 for WR. Action: NCEP/HPC

November 1999

November 1: Begin WR Follow-on Assessment. Action: OM, NCEP, WR

November 1: Obtain DRG approval for transmission of new graphical (Phase 1) HPC QPF products via AWIPS. Action: OSO

November 3: Disseminate revised implementation time line and WR Follow-on Assessment verification methodology and evaluation criteria to Corporate Board. Action: OM

November 10: Approve revised implementation time line and WR Follow-on Assessment verification methodology and evaluation criteria. Action: Corporate Board

November 30: Map into the Build 5 Plan development tasks necessary to prototype a uniform AWIPS QPF tool to replace legacy software applications at RFCs, NCEP, and WFOs. Assess impact on other currently planned AWIPS Build 5 tasks. Action: APO [Note: Action *partially complete*. Impact on currently planned Build 5 tasks cannot be assessed until re-base-lined Build 5 schedule is completed]

November 30: Implement approved internal HPC FTE reallocation and notify all internal and external customers via PNS of any service impacts. Action: NCEP

November 30: Host 3-day meeting (commencing 30 Nov) wherein representatives from the affected regions, NCEP, OH, APO, and OSO work as a team reviewing, focusing, and addressing all necessary implementation issues. Travel costs will be covered by attendees. Action: OM

December 1999

December 2: Reach consensus on standard RFC software application and format for HPC-generated QPF grids. Action: ER/CR/SR/OH

December 2: If HASQPF is selected to continue as the standard software application used by RFCs east of the Continental Divide, make commitment to support and maintain the RFC HASQPF software application beginning April 3, 2000. If APO adapts and maintains a current AWIPS grid editing tool for use at the RFCs east of the Continental Divide, make commitment to assume responsibility for integration of this grid editor at the affected RFCs. If some other yet-to-be-developed RFC or HRL grid editor is the consensus choice, make commitment to assume responsibility for the integration and maintenance of this grid editor. Action: OH

December 6: Implement Phase 1 HPC product suite enhancements. Action: NCEP/HPC

December 15: Post WR QPF Follow-on Assessment verification results for the month of November on web site. Action: OM

December 15: Submit request to DRG to approve dissemination of new gridded, graphical, and text (Phase 2) HPC QPF products via AWIPS (Phase 2 product suite enhancements are planned for implementation effective 1200 UTC cycle 31 May 2000). Action: NCEP/HPC [Not yet necessary for gridded QPFs. Received permission from Ward Seguin (APO) on Monday December 13, 1999 to ftp (point-to-point) these small QPF graphic products (< 40 KB) over the AWIPS WAN**.]**

December 15: Provide APO/Ruth a prioritized list of WFOs which plan to transition to GMOD for QPF generation prior to Build 5.0/GFE implementation. Action: ER/Gabrielsen, CR/Schwein, and SR/Weige**r**

December 15: Assess WR per conferee cost of utilizing point-to-multipoint "blast-up" teleconferencing for inter-office coordination. Action: WR/Hughes.

December 23: Each Region and Office Director will provide the CFO FY00 and FY01 resource assessment/impacts for implementation of modified QPF process. Action: Each Region and Office

December 28: Request that a Red Book Graphic (RBG) decoder fix be checked into the next available AWIPS patch to allow the HPC to correct or amend RBG products. Action: OM/Helms

January 2000

January 5: Coordinate preliminary NMAP implementation activities with RFC HICs and staffs (i.e., let staffs know what to expect and when to expect it). Action: CRH/Schwein, ERH/Gabrielsen, and SRH/Weiger

January 6: Determine whether the HRAP grid can be displayed in D2D on WFO AWIPS. Action: Ruth/APO

January 7: Distribute schedule for monthly QPF Process IWG coordination calls. Action: OM/Graziano.

January 14: Submit a request to the DRG to obtain WMO headers for GRIB-encoded RFC QPFs (on AWIPS 10-km 218 grid) for use at WFOs and the NPVU. Action: Wilson/OH

January 14: Confirm that WMO headers are available for hourly HRAP-gridded Stage III or equivalent grids and submit a request to the DRG to obtain WMO headers for 6- and 24-h HRAP-gridded aggregate Stage III or equivalent (i.e., Mountain Mapper) QPEs. Action: OH/Wilson

January 14: Query RFCs to define a regular time for HPC-RFC coordination calls (e.g. 1500 UTC, 2100 UTC, 0300 UTC, and 0900 UTC) when event-driven coordination is needed. Action: WR/Hughes, SR/Weiger, ER/Gabrielsen, CR/Schwein

January 14: CFO responds to each Office and Regional Director on FY00 and FY01 resource request and begins coordination with NWSEO regarding operational changes. Action: CFO

January 18: Post WR QPF Follow-on Assessment verification results for the month of December on web site. Action: OM

January 20: Prepare an analysis of the projected FY02 personnel and funding impacts of the revised QPF Process and if necessary submit FY02 budget information to the CFO. Action: Each Region and Office

January 27: Assess the feasibility (including resource implications) of effecting a transition from the use of XMRG to GRIB as the standard grid format for internal RFC use. Action: OH/Wilson

January 28: Add HPC as an addressee on HCM and HMD messages. Action: WR/Hughes, SR/Weiger, ER/Gabrielsen, CR/Schwein

January 28: Implement WFO and RFC AWIPS functionality (patch) to recognize, store, and display new (Redbook) graphical (Phase 1) HPC QPF products. Action: APO

January 31: Complete development of scripts which support the integration of NMAP with NWSRFS at each RFC east of the Continental Divide. Action: SR/Lawrence

January 31: Complete training plan/time line to provide NMAP product generation software training to the 9 RFCs east of the Continental Divide. Action: NCEP/Reynolds and OM/Graziano

February 2000

February 1: Assess resources required to satisfy the requirement to generate and transmit in near real-time, from each of the three RFCs west of the Continental Divide, 1-h GRIB-encoded Mountain Mapper (or Stage III) QPEs. Action: Hughes/WR

February 4: Reach consensus, in coordination with OM and OH, on a standard format for archiving RFC QPE and HAS-modified QPF grids necessary for the implementation of a National Precipitation Verification Unit (NPVU). Action: CR/WR/ER/SR

February 4: Provide QPF Process IWG coordinator a list of additional QPF Implementation Time Line tasks necessary to implement the modified QPF process west of the Continental Divide. Action: WR/Hughes.

February 15: Provide GRIB encoding software to the RFCs. Action: Sweeney/OH

February 16: Post WR QPF Follow-on Assessment verification results for the month of January on web site. Action: OM

February 16: Provide the name of the NMAP training focal point at each RFC east of the Continental Divide. Action: Peter Gabrielsen/ER, Noreen Schwein/CR, and Ben Weiger/SR

February 18: Provide Bill Lawrence (ABRFC) a copy of Keith Brill's code which converts GEMPAK (.grd) format grids to GRIB. Action: Brett McDonald/OM and Dave Reynolds/NCEP.

February 18: Submit request to DRG to approve dissemination of new RFC HAS QPF products to associated WFOs via AWIPS (product format determined at NWSH meeting December 2, 1999). Action: OH

February 22: Provide Dave Helms (OM) examples copies of 1) an individual gridded QPF (cropped) for the ABRFC and 2) a CONUS gridded QPF. Both grids should be in GRIB format on the AWIPS 218 grid. Action: Brett McDonald/OM

February 22: Ensure WFO and RFC staffs understand the impact of the QPF process modifications, approved at the August 25 Director's Meeting, on operations. Action: CR/ER/SR

February 25: Provide status update to Corporate Board. Action: OM

February 25:   Test DR patch, which will enable HPC to update and amend products, on the HPC and NHOW (SSMC2 14th floor) AWIPS workstations.   Action: Dave Helms/OM, Dave Ruth/APO-OSD, and Dave Reynolds/NCEP

February 25: Provide Dave Helms (OM) test files of the new Phase 2 HPC Day 2 and 3 6-h QPFs in Redbook graphics format. Action: Dave Reynolds/NCEP

February 25: Inform HPC NMAP trainers that they should demonstrate the graph to grid problem for light precipitation events to ensure RFC forecasters understand how to resolve the issue. Action: NCEP

February 26: Submit RC to AWIPS CCB to enable WFO and NCEP AWIPS workstations to display individual and mosaic gridded RFC QPFs in D2D. Action: Tom Graziano/OM and Dave Helms/OM (see 28 March 2000 QPF Implementation Time Line task)

February 26: Issue Public Notification Statement (PNS) for HPC Phase 2 product suite enhancements. Action: Tom Graziano/OM and Dave Reynolds/NCEP

March 2000

March 1: Test end-to-end patch to display new HPC (Phase 2) Day2 and 3 6-h graphic products via D2D on NHOW (SSMC2 14th floor) AWIPS workstation. Action: Dave Helms/OM and Dave Ruth/APO-OSD

March 1: Provide Dave Helms (OM) and Lloyd Irvin/OSO information regarding 1) where the hourly Stage III or equivalent RFC QPEs must be transmitted to enable national NCEP Stage IV precipitation mosaic to be produced and 2) what the data cut off time is for NCEP/NCO to utilize these hourly analyses for NWP model initialization. Action: Dave Reynolds/NCEP

March 1: Provide Dave Helms (OM), John Bradley (OH), and Lloyd Irvin/OSO information regarding where the 6-h aggregate Stage III or equivalent RFC QPEs must be transmitted to enable access by the NPVU for verification. Action: Dave Reynolds and Brett McDonald/NCEP

March 1: Provide Dave Helms (OM) and Lloyd Irvin/OSO information regarding where RFC QPFs must be transmitted to enable access by 1) HPC (for coordination and possibly generation of mosaicked QPF for use by WFOs) and 2) the NPVU (for verification). Action: Dave Reynolds/NCEP and Brett McDonald/OM

March 3: For each RFC, provide Dave Reynolds (NCEP) the following information to effect VGF file transfers from HPC to each RFC each of the Continental Divide: a) workstation IP address; b) file directory; c) user name; and d) password. Action: Peter Gabrielsen/ER, Noreen Schwein/CR, and Ben Weiger/SR

March 3: Provide a list of NMAP training dates and instructors for all RFCs east of the Continental Divide. Action: Dave Reynolds/HPC

March 6: Begin routine issuance of Day 2 and 3 6-h QPFs in Redbook graphics format. Action: Dave Reynolds/NCEP

March 7: Submit CR to DRG which includes RFC QPE product routing information to ensure hourly QPE (Stage III) products are delivered to the proper destination (i.e., NCEP). Action: Lloyd Irvin/OSO and Dave Helms/OM

March 7: Submit DRG request for a WMO header for the hourly, gridded, NCEP national Stage IV QPE mosaic. Action: John Bradley/OH and Dave Helms/OM.

March 7: Submit DRG request for WMO headers for the gridded RFC 6-h aggregate Stage III or equivalent QPEs. Action: John Bradley/OH and Dave Helms/OM.

March 10: Submit CR to DRG which includes RFC QPF product routing information to ensure QPF products are delivered to the proper destinations (i.e., WFOs and NCEP). Action: Lloyd Irvin/OSO and Dave Helms/OM

March 10: Assess whether HPC can satisfy the WFO requirement for a national mosaic of RFC QPFs. Action: Dave Reynolds/NCEP

March 10: Develop strategy and complete testing of scripts to ftp VGF files to the RFCs. Action: Dave Reynolds/HPC

March 10: Submit DR to reconfigure HPC AWIPS with unique ID to send/receive MHS traffic unambiguously. Action: Dave Helms/OM and Lloyd Irvin/OSO.

March 15: Obtain DRG approval for transmission of new gridded, graphical, and text (Phase 2) HPC QPF and RFC QPE and QPF products via AWIPS SBN/WAN. Action: OSO

March 15: Post WR QPF Follow-on Assessment verification results for the month of February on web site. Action: OM

March 27: Submit RC to add AWIPS capability to view in D2D a loop (or aggregate) of the 24 most recent hourly RFC Stage IV (QPE) analyses or a user-specified subset thereof. Action: Dave Helms/OM and Tom Graziano/OM

March 28: Demonstrate for OH, OM, Regions, and NCEP, transmission of new HPC and RFC products via AWIPS SBN/WAN. Action: APO

March 28: Commence QPF Process IWG Meeting 2. This meeting will begin at noon March 28 and adjourn noon March 30. The meeting will be focused on completing final preparations for the June OT&E. Action: OM/Graziano

March 30: Add NMAP functionality which enables the MAKEGRID parameters to be table driven and provide updated software (Z-version release) to the 9 RFCs east of the Continental Divide. Action: Dave Reynolds and Mary DesJardins NCEP

March 30: At current WFO IFPS Alpha Sites, and in support of June-July 2000 OT&E, implement AWIPS functionality (patch) to display HPC and RFC QPF products and generate a gridded QPF and accompanying QPS (text) product. [Note: Resources are currently not available given Build 5.0 deadlines to initialize WFO grid editor with RFC or HPC gridded QPF products.] Action: APO

March 30: Implement, if necessary (as determined at NWSH meeting December 2, 1999), AWIPS QPF grid conversion software (e.g., conversion from HASQPF GRIB format to AWIPS format for transmission to WFO and NPVU). [Note: Provision of this capability is contingent upon the availability of additional resources. A grid conversion capability is required if WFOs are provided with the capability to initialize the AWIPS grid editor with RFC or HPC gridded QPF products *and* HASQPF continues as the software application used by RFCs east of the Continental Divide.] Action: APO

March 30: Demonstrate initial capability to display RFC QPF (bit map) on an AWIPS configured for a WFO. Action: APO/FSL

March 30: Implement and demonstrate NMAP at one RFC in each of the three NWS Regions east of the Continental Divide. These RFCs were designated by the QPF Process IWG as the ABRFC, NERFC, and NCRFC. Action: OH/Graziano, SR/Lawrence, ER/Gabrielsen, CR/Schwein

March 31: Complete data gathering for WR follow-on assessment. Action: OM

April 2000

April 3: Assume responsibility for field support and maintenance of the RFC HASQPF software application *or* assume responsibility for integration of an AWIPS grid editor at RFCs east of Continental Divide *or* assume responsibility for the integration and maintenance of other (yet-to-be-developed) grid editor (specific responsibility contingent on software application selected December 2, 1999). Action: OH

April 5: Issue Public Notification Statement (PNS) for HPC Phase 2 product suite enhancements (enhancements effective 1200 UTC cycle 31 May 2000). Action: OM

April 5: Coordinate with RFCs to ensure successful implementation of NMAP at the OHRFC and the MARFC prior to delivery of HPC on-station NMAP training. Action: ER/Peter Gabrielsen.

April 7: Provide status update to Corporate Board. Action: OM

April 7: Install new (test) version of distributeProduct, modified to transmit binary products, at the ABRFC and NCEP. Action APO/Site Support team (SST)

Future Tasks

April 12: Validate transmission of new HPC and RFC products via AWIPS SBN/WAN. Action: NCEP/SR/ER/CR/WR

April 12: Provide QPF Process IWG members the start dates for Pre-OT&E Tests at all RFCs (other than the ABRFC) east of the Continental Divide. Action: ER/Peter Gabrielsen, CR/Noreen Schwein, and SR/Ben Weiger.

April 14: Implement HPC NAWIPS (NMAP) software enhancements to generate gridded products. Action: NCEP/NCO

April 14: Post WR QPF Follow-on Assessment verification results for the month of March and 5-month summary on web site. Action: OM

April 15: Develop an HPC product schedule which reflects recent Phase 1 and 2 product suite enhancements and post on QPF Process IWG web site. Action: OM/Graziano and NCEP/Dave Reynolds.

April 17: Submit request to DRG to obtain WMO headers for RFC QPS products. Action: OH/John Bradley.

April 17: Coordinate with OSO to add to IWIN (under Hydro Products) a link to the web sites of the RFC(s) whose domain intersects a particular state's geographic boundary. This will enable users to access via IWIN RFC-produced 6-h QPF graphics and QPS text products. Action: OM/Mercer and Graziano.

April 17: Coordinate with OSO to remove from IWIN access to WFO QPS products by 31 July. Action: OM/Mercer.

April 18: Reconvene QPF Process Assessment Team to review the WR Follow-on Assessment verification results. Action: OM

April 19: Ensure RFC capability exists for the short-term archival at RFCs of gridded HPC and RFC QPF products and gridded RFC QPE products. Action: OH

April 19: Provide regional QPF Process IWG representatives instructions to pre-program AT&T "blast-up" teleconferencing at field offices. Action: OM/Michael Mercer.

April 20: Install new (test) version of distributeProduct, modified to transmit binary products, at the NCRFC. Action APO/Site Support team (SST)

April 20: Complete development of code (pre - 4.3.3 D2D patch) to display gridded RFC QPF (individual and mosaic) and NCEP/EMC CONUS (Stage IV) QPE on WFO and RFC AWIPS configurations. Action: APO/FSL

April 21: Provide HPC service backup plan to QPF Process IWG members. Action: NCEP/Dave Reynolds.

April 24: Develop DRAFT web-based problem and/or suggestion log and provide to QPF process IWG members for review. Action: OM/Mercer

April 25: Post HPC service backup plan on QPF Process IWG web site. Action: OM/Mercer.

April 28: Complete HPC on-station staff training on NWSRFS. Action: NCEP/HPC

April 28: Complete, in coordination with OM and OH, consensus plan for two-month OT&E for modified QPF process. Action: CR/SR/ER/WR/NCEP

April 28: Provide OSO a complete listing of WMO headers for the WFO QPS products (which will be removed from IWIN). Action: OM/Michael Mercer.

April 28: Provide OSO a complete state-by-state listing of URLs for the RFC(s) whose domain intersects each state's geographic boundary (so OSO can add IWIN link under Hydro Products). Action: OM/Michael Mercer.

April 30: Utilizing live data, complete testing of code (pre - 4.3.3 D2D patch) to display gridded RFC QPF (individual and mosaic) and NCEP/EMC CONUS (Stage IV) QPE on WFO and RFC AWIPS configurations. Action: APO/FSL

May 2000

May 1: Complete and test backup procedures for the HPC QPF products. Action: NCEP

May 1: Establish QPF backup procedures for the RFC HAS QPF products. Action: OH

May 1: Implement internal procedures, in coordination with the CONUS Regions, for RFCs to request updates of HPC QPF guidance products. Action: NCEP

May 1: Complete NMAP product generation software training for the 9 the RFCs east of the Continental Divide. Action: NCEP/Reynolds, OM/Graziano, SR/Weiger, ER/Gabrielsen, CR/Schwein)

May 1: Implement fully functional NMAP product generation software and associated post-processing scripts at the six additional RFCs east of the Continental Divide -- OHRFC, MARFC, WGRFC, LMRFC, SERFC, and MBRFC. Action: OH/Graziano, SR/Lawrence, ER/Gabrielsen, CR/Schwein

May 1: Generate Mountain Mapper 6- and 24-h gridded QPEs at each of the three CONUS RFCs west of the Continental Divide and transmit to NCEP/NPVU in GRIB format. Action: Hughes/WR

May 1: Coordinate start dates for three-phased OT&E with WFOs and RFCs. Ensure each RFC and WFO understands how their responsibilities (e.g., QPF product generation, coordination) will change with the commencement of the OT&E. Action: ER/Peter Gabrielsen, CR/Noreen Schwein, and SR/Ben Weiger.

May 1: Develop prototype cron job/scripts for RFCs which utilize distributeProduct to transmit by the required times a) 1-h HRAP-gridded, GRIB-encoded, auto or HAS quality-assured Stage III (or equivalent) gridded QPEs; b) aggregate 6-h, HRAP-gridded, HAS quality-assured, GRIB-encoded QPEs; and c) HAS-modified, AWIPS 218 (10-km) gridded, GRIB-encoded, 6-h QPFs. Action: SR/Bill Lawrence.

May 1: Disseminate and coordinate with RFCs the NCEP/EMC data cut-off requirements (times) for the "bundled" 1-h Stage III (or equivalent) QPE grids to support atmospheric model data assimilation. These requirements are posted on the QPF Process IWG home page. [Note: RFCs will *not* transmit every 1-h Stage III product generated but rather only the most recent/best analysis available *10 minutes prior* to the EMC data cut-off time. There are 4 EDAS cycles per day and 4 "bundles" of 3 individual 1-h gridded QPEs are required to support each EDAS cycle.] This will ensure the most recent version of these 1-h QPE grids arrive at the IBM SP by the required time, when routine product dissemination begins (see 1 June 2000 Time Line task). Action: ER/Peter Gabrielsen, WR/Norm Hoffmann, CR/Noreen Schwein, and SR/Ben Weiger.

May 1: Disseminate and coordinate with HPC/WFO data cut-off requirements (RFC transmission times) agreed to by the QPF Process IWG for RFC-produced, HAS quality-assured, *aggregate* 6-h gridded QPEs. Preliminary and final versions of these aggregate grids should be sent from RFCs by *1500 UTC and 2100 UTC*, respectively. [Note: These grids will be sent to the NCEP IBM SP.

NCEP/EMC will generate a CONUS mosaic of these grids and transmit them back to the field.]
Action: ER/Peter Gabrielsen, WR/Norm Hoffmann, CR/Noreen Schwein, and SR/Ben Weiger.

May 1: Disseminate and coordinate with RFCs data cut-off requirements (times) agreed to by the QPF Process IWG for RFC HAS-modified, AWIPS 218 (10-km) gridded, GRIB-encoded, 6-h QPFs. For the 1200-1200 UTC and 0000-0000 UTC forecast cycles, RFCs should transmit these QPF grids by *1330 UTC and 0130 UTC*, respectively. [Note: NCEP/HPC will generate a CONUS mosaic of these grids and transmit them back to the field. WR will only provide these QPF grids from Oct-Apr. HPC will label this mosaic *"National mosaic QPF input to the 1200 UTC (or 0000 UTC) run of the NWSRFS."*] Action: ER/Peter Gabrielsen, WR/Norm Hoffmann, CR/Noreen Schwein, and SR/Ben Weiger.

May 1: Coordinate with RFCs and WFOs to ensure they know the AT&T "blast-up" teleconferencing capability still exists for the NWS and will continue indefinitely. Action: ER/Peter Gabrielsen, WR/Norm Hoffmann, CR/Noreen Schwein, and SR/Ben Weiger.

May 1: Identify NMAP regional focal points. [Note: Bill Lawrence is both the SR regional NMAP representative and the national NMAP field representative.] Action: ER/Peter Gabrielsen and CR/Noreen Schwein.

May 1: Modify NMAP QPF post-processing scripts to generate GRIB-encoded 10 km AWIPS 218 grids as bit maps [Note: This was requested by FSL to facilitate the generation of D2D code for display of QPF grids and the use of bit maps will ensure that this code will not need to be modified should an RFC need to modify their RFC domain]. Ensure the GRIB encoder prepends the WMO ID on the GRIB file. Action: NCEP/Brett McDonald and SR/Bill Lawrence.

May 10: Install (final) tested version of distributeProduct, modified to transmit binary products, at the ABRFC. Action: APO/SST

May 15: *All* RFCs east of the Continental Divide will make the HAS-modified QPF input to NWSRFS routinely available via each respective RFC's web site as a graphic *and* as a QPS text product (FMAPs). RFCs will identify these products as "*QPF input to the 1200 UTC (or 0000 UTC) run of the NWSRFS.*" Action: ER/Peter Gabrielsen, CR/Noreen Schwein, and SR/Ben Weiger.

May 17: Conduct Corporate Board VTC to decide on QPF process west of Continental Divide. The QPF Process Assessment Team Leader will present the results of the WR Follow-on Assessment and provide a recommendation based upon a business-case analysis to Corporate Board. Action: OM/Corporate Board

May 20: Install (final) tested version of distributeProduct, modified to transmit binary products, at the NERFC, NCRFC, and NCEP (OT&E Phase 1 Sites). Action: APO/SST

May 20: Complete and disseminate NMAP training manual to each RFC east of the Continental Divide. Action: NCEP/Brett McDonald.

May 20: Install (pre - 4.3.3 D2D patch) to display gridded RFC QPF (individual and mosaic) and NCEP/EMC CONUS (Stage IV) QPE on WFO and RFC AWIPS configurations at the ABRFC,

NERFC, NCRFC, associated WFOs, and NCEP (OT&E Phase 1 Sites). Action: APO/SST

May 20: Implement web-based problem and/or suggestion log for OT&E. Action: OM/Mercer

May 22: Quantify HPC forecaster confidence in QPF products via the PFD. Characterize degree of forecast confidence using terminology high, moderate, or low. Action: NCEP/Dave Reynolds.

May 31: Implement Phase 2 HPC products suite enhancements. Action: NCEP

May 31: Implement procedures for coordination of QPFs between HPC and RFCs (to include point-to-multipoint "blast-up" teleconferencing -- phone charges for HPC-initiated calls will be funded by NCEP). Action: NCEP

May 31: Implement updated internal regional procedures for coordination of HAS-generated QPFs and river forecast guidance between RFCs and WFOs. Action: ER/CR/SR/WR

June 2000

June 1: Begin two-month OT&E for modified QPF process. Action: NCEP/CR/SR/ER

June 1: Submit DRG request for WMO headers for gridded HPC 6-h QPFs through Day 3 (13 products). Action: Dave Helms/OM and Dave Reynolds/NCEP

June 1: Begin Phase One of the QPF Process OT&E. Test the modified QPF process at the ABRFC, NERFC, and NCRFC. The WFOs associated with these RFCs will cease routine production of QPF for input to NWSRFS (so long as they do not support an additional RFC other than the three involved in OT&E Phase One). Action: NCEP/CR/SR/ER

June 1: Generate and provide to NCEP/NCO and each RFC using NMAP a table containing critical configuration management (CM) information/details for each RFC to support timely provision of operations maintenance. Action: NCEP/Brett McDonald.

June 1: Confirm NCEP (World Weather Building) site ID (WBC) for transmission of point-to-point messages. OM/Dave Helms

June 1: Begin routine provision of gridded and point ground truth (QPE) and HAS QPF products to WFOs and NPVU. Action: CR/ER/SR/WR

June 1: Install (pre - 4.3.3 D2D patch) to display gridded RFC QPF (individual and mosaic) and NCEP/EMC CONUS (Stage IV) QPE on WFO and RFC AWIPS configurations at the WGRFC, MBRFC, OHRFC, and associated WFOs (OT&E Phase 2 Sites). Action: APO/SST

June 1: Install (final) tested version of distributeProduct, modified to transmit binary products, at the WGRFC, MBRFC, and OHRFC (OT&E Phase 2 Sites). Action: APO/SST

June 15: Install (final) tested version of distributeProduct, modified to transmit binary products, at

the MARFC, LMRFC, SERFC, CBRFC, CNRFC, and NWRFC (OT&E Phase 3 Sites and WR RFCs). Action: APO/SST

June 15: Install (pre - 4.3.3 D2D patch) to display gridded RFC QPF (individual and mosaic) and NCEP/EMC CONUS (Stage IV) QPE on WFO and RFC AWIPS configurations at the MARFC, LMRFC, SERFC, and associated WFOs (OT&E Phase 3 Sites). Action: APO/SST

June 15: Begin two-month OT&E for NPVU. Action: OM

June 19: If operational capability is successfully demonstrated, conclude Phase One of the QPF Process OT&E and formally implement the modified QPF process at the HPC, ABRFC, NERFC, and NCRFC. Indefinitely relieve associated WFOs (supporting only the ABRFC, NERFC, or NCRFC) of the responsibility for generating QPF for input to NWSRFS. Action: NCEP/CR/SR/ER

June 22: Begin Phase Two of the QPF Process OT&E. Test the modified QPF process at the WGRFC, MBRFC, and OHFRC. The WFOs associated with these RFCs will cease routine production of QPF for input to NWSRFS (so long as they do not support an additional RFC other than the six involved in OT&E Phases One and Two). Action: NCEP/CR/SR/ER

June 28:   Submit RC to AWIPS CCB to enable WFO AWIPS workstations to initialize GFE with individual and mosaic gridded RFC QPFs and gridded HPC QPFs. Action: Tom Graziano/OM and Dave Helms/OM (see 31 Jan 2001 QPF Implementation Time Line task)

June 30: Implement, via AWIPS Build 5.0, functionality for WFOs to display HPC Phase 2 and RFC (gridded/GRIB) QPF products and generate a gridded QPF and accompanying QPS (text) product. Action: APO

July 2000

July 1: Begin the routine HPC generation and dissemination of a CONUS mosaic of RFC-produced gridded QPFs. Action: NCEP/Dave Reynolds and Brett McDonald.

July 10: If operational capability is successfully demonstrated, conclude Phase Two of the QPF Process OT&E and formally implement the modified QPF process at the WGRFC, MBRFC, and OHFRC. Indefinitely relieve associated WFOs (supporting only the WGRFC, MBRFC, OHFRC, ABRFC, NERFC, or NCRFC) of the responsibility for generating QPF for input to NWSRFS. Action: NCEP/CR/SR/ER

July 13: Begin Phase Three of the QPF Process OT&E. Test the modified QPF process at the MARFC, LMRFC, and SERFC. The WFOs associated with these RFCs will cease routine production of QPF for input to NWSRFS. Action: NCEP/CR/SR/ER

July 15: Assess feasibility of utilizing a single software application for encoding grids in GRIB format at the RFCs [Note: Currently utilize two different applications: 1) NCEP/HPC software for QPFs and OH/HRL software for QPEs]. Action: OH/Tim Sweeney and SR/Bill Lawrence.

July 30: If operational capability is successfully demonstrated, conclude Phase Three of the QPF Process OT&E and formally implement the modified QPF process at the MARFC, LMRFC, and SERFC. Indefinitely relieve associated WFOs of the responsibility for generating QPF for input to NWSRFS. Action: NCEP/CR/SR/ER

July 31: Complete two-month OT&E for modified QPF process. Action: NCEP/CR/SR/ER

July 31: Coordinate with FTS service providers to ensure that an audio teleconferencing capability will continue to be available in December 2000. Action: OM

August 2000

August 7: Reaffirm the impact of the revised QPF process on staffing and funding needs for the CFO and, if necessary, recommend FY01 budget related actions. Action: Each Region and Office

August 15: Complete two-month OT&E for NPVU. Action: OM

August 21: Begin SOO Heavy Precipitation and Flash Flood Symposia at COMET with workshop materials also available on the world wide web to support on-station training.. Action: OM

September 2000

September 1: Begin transition to modified QPF Process. Action: NCEP/ER/CR/SR

September 1: Generate AVN MOS-based vgf format temperature (isotherm) files. Verify NMAP can modify these isotherms and generate temperature grids. Action: HPC/Dave Reynolds and Brett McDonald.

September 1: Begin the routine EMC generation and dissemination of a CONUS mosaic of RFC-produced, HAS quality-assured, aggregate 6-h gridded QPEs. Action: NCEP/Dave Reynolds.

September 7:   Analyze the results of the June-July 2000 OT&E and determine if there is a WFO requirement to make QPF a menu selectable feature in the RDF. Action: Peter Gabrielsen/ER, Noreen Schwein/CR, Ben Weiger/SR, and Norm Hoffmann/WR

September 7: Provide Corporate Board summary of 2-month modified QPF Process and NPVU OT&Es and associated actions. Action: OM

September 15: Issue updated WSOM Chapters. Action: OH

September 15: Ensure a) the HPC-generated, CONUS mosaic of RFC-produced gridded QPFs and b) the EMC-generated CONUS, RFC-produced, HAS quality-assured, 6-h QPE mosaic grids are made available via the OSO server. These grids will have a minimum residence time of 48 hours on the server. Action: OSO/Lloyd Irvin.

September 15: Develop NMAP post-processing scripts to generate FMATs, for input to NWSRFS, from NMAP temperature grids. Action: SR/Bill Lawrence.

September 27: Complete transition to modified QPF Process. Action: NCEP/ER/CR/SR

September 29: Implement NPVU, confirm commitment to maintain, and begin routine archival and verification QPF products and provision of verification feedback to forecasters, model developers, and management. Action: OM

October 2000

October 1: Deliver to RFCs instructions to update NMAP localization files to ingest AVN MOS-based vgf format temperature (isotherm) files and generate temperature grids. [Note: The HAS-generated temperature grids will only be used internally at RFCs and will *not* be a public product.] Action: NCEP/Dave Reynolds and Mary DesJardins.

October 2: Begin RFC HAS/HPC QPI Workshops at COMET with workshop materials also available on the world wide web to support on-station training. Action: OM

October 15: Begin routine provision to RFCs of 6-h, CONUS, AVN MOS-based temperature (isotherm) guidance and 24-h max/min guidance through 72 hours to initialize NMAP. Action: NCEP/Dave Reynolds.

November 2000

November 17: Complete RFC HAS/HPC QPI Workshops at COMET. Action: OM

November 30: If necessary, ensure conversion of audio teleconferencing capability to FTS2001 provider is complete. Action: NCEP

January 2001

January 31: Begin evaluation of prototype uniform AWIPS QPF tool which satisfies existing HPC, RFC, and WFO requirements (RWP00059) and allows for replacement of legacy software. Action: APO

January 31: Implement WFO AWIPS functionality (patch) to recognize, store, and initialize GFE with either the gridded RFC or HPC QPFs. Action: APO

March 2001

March 16: Complete SOO Heavy Precipitation and Flash Flood Symposia at COMET. Action: OM

July 2001

July 31: Complete evaluation of prototype of uniform AWIPS QPF tool which satisfies existing HPC, RFC, and WFO requirements (RWP00059) and allows for replacement of legacy software. Action: APO

January 2002

January 31: Pending evaluation results, implement uniform AWIPS QPF tool nationwide at NCEP, RFCs, and WFOs and replace legacy software. Action: APO